

ABSTRACT OF THE DISCLOSURE

5 A microchip apparatus and method provide
fluidic manipulations for a variety of
applications, including sample injection for
microchip liquid chromatography. The microchip
is fabricated using standard photolithographic
procedures and chemical wet etching, with the
substrate and cover plate joined using direct
10 bonding. Capillary electrophoresis is performed
in channels formed in the substrate. Injections
are made by electro-osmotically pumping sample
through the injection channel that crosses the
separation channel, followed by a switching of
15 the potentials to force a plug into the
separation channel.